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A Survey of the Scope of Chiropractic Practice in South Africa: 2015

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Abstract

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Results: The response rate was 32%; of the respondents, 56% were males and 44% were females. The majority of the respondents had a master's degree in chiropractic. Most participants worked between 31 and 40 hours and saw fewer than 50 patients per week, typically allocating 31 to 45 minutes for initial consultations and 16 to 30 minutes for follow-up visits. Participants saw more female patients than male patients, and most patients were between the ages of 31 and 50 years. Patients typically presented to chiropractors during the acute phase, the primary complaint was low back and pelvic pain/injury without leg pain, and overuse/repetitive stress was reported as being the common etiology. Chiropractors have developed interprofessional referral relationships with general practitioners and massage therapists.

Conclusions: Compared with similar survey analyses from Switzerland, the United Kingdom, and the United States, our findings showed overlap, but some characteristics were unique to the chiropractic profession in South Africa. (J Manipulative Physiol Ther 2017;40:517-526)

Key Indexing Terms: *Chiropractic; Practice; Patients; Questionnaire; Survey*

Introduction

The chiropractic profession advanced in the late 1890s from being a nonlicensed practice restricted to the United States (US) to an international profession that is in a favorable position to be more integrated into health care systems.[1] The chiropractic profession in Switzerland has been posited as a good example of the integration of chiropractic into the health care system.[2]

At present, South Africa (SA) is ready for chiropractic integration within health care as a result of the following developments: (1) SA institutions offer a Master of Technology degree in chiropractic, comprising a research project and a stringent chiropractic internship program; (2) a national continuing education program has been introduced; and (3) international accreditation was awarded to the Durban University of Technology and University of Johannesburg chiropractic programs in 2009 and 2010, respectively.[3,4]

However, research into the developmental issues facing the chiropractic profession in SA highlights current obstacles. There is a need for clarification of the local scope of chiropractic practice so that the profession may better position itself in the broader health care system.[5]

According to the US National Board of Chiropractic Examiners report, a job analysis assesses a profession and provides primary indicators that define its content domain.[6] Job analysis surveys have already been conducted within chiropractic practice in the US, the United Kingdom (UK), and Switzerland,[2,6-8] focusing on the characteristics and the scope of the practice of the chiropractors in their respective countries. The results from these surveys show that these countries had specific aims for and drew different benefits from their respective analyses.[2,6-8] Clarity regarding the scope of chiropractic practice provides direction to the chiropractic profession so that it may advance in a country.[6] Prior to this survey, a job analysis had not been conducted in SA. The data collected herein should thus be considered in the future planning of the SA chiropractic profession.

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Specifically, the aim of the current survey was to identify characteristics specific to the chiropractic profession in SA and compare them with those of other countries where similar surveys have been conducted. It was envisaged that the results would provide reliable and current information on the chiropractic profession and the effective scope of practice in in the country. This information can be used to promote a better understanding of the chiropractic profession in both the public and health sectors, and provide a means to advance interprofessional relationships with mainstream health care in SA.

Methods

The survey consisted of a structured questionnaire addressing chiropractic practice in SA and a descriptive study design. The study protocol was submitted to the University of Johannesburg's Academic Ethics Committee, and written approval was granted (reference number REC-01-162-2015). The SA chiropractic job analysis survey instrument (Appendix 1, online content) used in this study was based mainly on the Swiss questionnaire, which, in turn, was based on the National Board of Chiropractic Examiners and the UK General Chiropractic Council job analysis surveys.[2]

The survey was adapted to a certain degree to suit and reflect current chiropractic practice in South Africa, specifically those questions relating to province of practice, continuous professional development activities (Question 4), educational institutions (Question 6), and level of nonchiropractic education (Question 7). In addition, more categories were provided for number of patients seen per week (Question 8) and professional boards (Question 17). Apart from irrelevant categories, which were excluded, the other questions remained unchanged for the purpose of comparison with findings from the other countries.

Before applying the instrument, the questionnaire was pretested with a small group of chiropractors. These practitioners were not excluded from completing the final online questionnaire. The SA chiropractic job analysis survey questionnaire (Appendix 1) was placed online on www.statpac.com by the head of the statistical consultation service at the University of Johannesburg Kingsway Campus.

The Registrar of the Allied Health Professions Council (AHPCSA) was then approached for assistance in the distribution of the documentation to the practitioners registered with the Council. After screening the practitioners to ensure that they were not deregistered either by choice or by the professional board at the time of distribution, the Registrar then distributed a presurvey notification and link to the questionnaire via email to all the eligible practitioners. The presurvey notification provided the practitioners with information regarding the survey and invited them to participate. Privacy was guaranteed through anonymity and confidentiality in the research procedures, and the participants were assured of the voluntary nature of their participation.

Table 1. *Length of Time in Practice and Hours Worked per Week*

Years in Practice	% of Chiropractors
<2	20.3
2-4	12.7
5-15	48.6
16-25	10.8
>25	7.5
Hours per Week	
<10	6.6
11-20	12.2
21-30	15.5
31-40	35.2
41-50	23.9
51-60	6.1
>60	0.5

Included in the presurvey notification to practitioners was the direction to follow the link provided to the information and consent forms. In the information form, a detailed description of the study was provided, including the objectives and benefits of the study. Practitioners were also informed that the consent form had to be submitted to gain access to the questionnaire. It was made clear that each participant could only access the survey once and that results of the study would be made available on request. Participants were then navigated through the 35 questions, and information was saved once each page was submitted through means of a "submit" button. To maximize the response rate, the survey was live for a period of 4 weeks, and follow-up emails were sent within the first week of the initial email and again after a 2-week period.

The data were imported into an Excel spreadsheet, and descriptive statistics were calculated. This information was then compared with the findings from the Swiss,[2] American,[6,7] and British[8] surveys.

Results

Overview of Survey Responses

At the time of distribution, 714 chiropractors were registered with the AHPCSA; however, only 669 practitioners received the documentation, thus making up the population size. A total of 282 practitioners accessed the online survey, and the 68 practitioners who did not complete more than 50% of the survey were excluded from the final data analysis, resulting in a final response rate of 32%.

Chiropractic Demographic Information

The highest number of responses came from Gauteng (43.4%), followed by KwaZulu-Natal (25.5%) and the

Table 2. *Continuing Professional Development Activities (Multiple Responses Allowed) and CEUs Earned During 2014*

Continuing Professional Development Activities	# Responses
Attending courses and workshops	154
Attending conferences, congresses and/or seminars	150
Attending meetings and group discussions	114
Membership of professional bodies	85
Multiple choice questionnaires and online training	56
Electronic or print publications	47
Bioethics and jurisprudence courses	38
Involvement at educational and/or training institution	38
Formal learning	24
Other	6
CEU Obtained (2014)	**% of Chiropractors**
None	17.5
1-10	12.8
11-20	23.2
21-30	26.1
31-40	12.8
41-50	3.8
51-60	0.9
>60	2.8

CEU, continuing education unit.

Western Cape (18.9%). The lowest numbers came from Mpumalanga (0.9%) and North West (0.9%). In terms of gender, the findings showed that 56.1% of respondents were males and 43.9% were females. Most practitioners had been actively in practice for between 5 and 15 years and worked between 31 and 40 hours per week (Table 1).

Continuing Professional Development

Chiropractors reported that they typically continued their professional development by attending courses and workshops (Table 2). The majority of chiropractors also specified that they obtained between 11 and 30 Continuing Education Units (CEUs) through professional development activities in 2014 (Table 2).

Chiropractic Institution Represented

The most highly represented training facility in SA was the Durban University of Technology (49.3%) followed by the University of Johannesburg (42.0%). Of the remaining respondents, 8% represent Life Chiropractic College and University, Palmer College of Chiropractic, and the National University of Health Sciences.

The educational model implemented in SA consists of a 5-to-6-year master's degree[3,4]; thus, 91.3% of the respondents in SA have master's degrees in chiropractic. In comparison, accredited chiropractic programs in the US typically consist of 4 to 5 academic years, and graduates are awarded the Doctor of Chiropractic (DC) degree.[6,7]

Table 3. *Gender of Chiropractic Patients*

	% of Chiropractors	
% of Patients	Male	Female
None	0.5	0.5
1%-25%	8.1	1.0
26%-50%	77.5	49.0
51%-75%	12.9	47.1
76%-100%	1.0	2.4

Level of Nonchiropractic Education

The majority of chiropractors in SA indicated also having other, nonchiropractic qualifications. The majority (56.9%) specified a first degree following completion of secondary school education, 16% indicated another master's degree, 12.2% indicated a postgraduate qualification below the level of master's, and 2.1% indicated a doctorate outside the field of chiropractic.

Patient Gender and Age

Most chiropractors reported that they treated more female patients than male patients; 47.1% of practitioners reported that 51% to 75% of their patients were females, and 77.5% of practitioners reported that between 26% and 50% of their patients were males (Table 3). The most common age group of patients treated was reported to comprise those 31 to 50 years of age (Table 4).

Number of Patients Seen

Most practitioners indicated that they treated fewer than 50 patients per week—typically between 25 and 49 patients in total, and between 4 and 6 new patients per week (Table 5).

Appointment Availability

Urgent appointments could be scheduled on the same day with the majority of the respondents and nonurgent cases within 1 to 2 days (Table 6).

Length of Appointments and Reassessment Interval

Participants typically allocated between 31 and 45 minutes for the initial consultation and between 16 and 30 minutes for follow-up visits (Table 7). Most chiropractors reported that they reassessed a patient receiving ongoing care between the first and the third visits following the initial consultation. Thirty-one percent reported that they reassess their patients at the first visit after the initial consultation; 33.8% at the second and third visits; 25.4% at the fourth and fifth visits; 3.3% at the sixth and seventh visits; 0.5% at the eighth and ninth visits; and 4.7% after

Table 4. *Percentage of Patients Seen per Age Group (Multiple Responses Allowed)*

Age Group	None	1%-25%	26%-50%	51%-75%	76%-100%
≤5 years	14.0%	80.6%	4.8%	0.0%	0.5%
6-17 years	3.4%	85.9%	8.5%	2.3%	0.0%
18-30 years	0.5%	36.8%	51.6%	8.9%	2.1%
31-50 years	1.0%	8.8%	47.3%	38.5%	4.4%
51-64 years	1.0%	38.1%	41.1%	15.7%	4.1%
≥65 years	3.3%	65.8%	21.2%	8.2%	1.6%

Table 5. *Number of Total and New Patients Seen per Week*

Total Number of Patients	% of Chiropractors	Number of New Patients	% of Chiropractors
<24	27.7	0	2.3
25-49	32.9	1-3	27.2
50-74	15.5	4-6	38.0
75-99	10.8	7-9	13.1
100-124	6.6	10-12	12.1
124-149	3.3	13-15	4.2
150-174	0.5	16-20	2.3
175-199	1.9	>20	0.5
250-274	0.5	-	-
≥300	0.5	-	-

Table 6. *Appointments for New Patients*

Urgent Patient	% of Chiropractors	Nonurgent Patient	% of Chiropractors
On the same day	65.4	On the same day	38.2
Within 1-2 days	30.8	Within 1-2 days	49.5
Within 3-4 days	2.4	Within 3-4 days	7.5
Within 5-7 days	0.9	Within 5-7 days	2.4
Only after 1 week	0.5	Only after 1 week	2.4

10 or more visits. A total of 1.4% reported that they do not reassess their patients.

Patient Symptom Duration

Chiropractic patients typically presented to chiropractors during the acute phase of disease and injury (within 0-4 weeks), and were least likely to be symptom-free (Table 8).

Sources of New Patients

The source reported to yield the most new patients (>50% of patients) was by word of mouth, followed by the sign/practice location, and then referrals from medical doctors and other health care providers. The least likely sources of new patients were from the AHPCSA and the Chiropractic Association of South Africa (CASA) websites.

Chiropractic Work Environment

Practitioners spent most of their time on direct patient care and patient education (Table 9). Almost half of chiropractors in SA reported that they were the sole practitioner in their practice, whereas the others practiced within a multidisciplinary setting or with other chiropractors (Table 10). Practitioners typically practiced from only one office location and occasionally provided chiropractic care outside of the office setting (Table 10).

The survey addressed the practice of delegation of certain procedures to nonchiropractic staff members, including taking and developing radiographic images. The majority of

Table 7. *Time Spent With a Patient on the Initial Consultation and Subsequent Visits*

Initial Consultation	% of Chiropractors	Subsequent Visits	% of Chiropractors
0-5 minutes	0.5	0-5 minutes	1.9
6-10 minutes	0.0	6-10 minutes	1.4
11-15 minutes	0.5	11-15 minutes	12.2
16-30 minutes	18.2	16-30 minutes	67.1
31-45 minutes	43.0	31-45 minutes	15.0
46-60 minutes	35.5	45-60 minutes	2.3
61-75 minutes	1.4	-	-
75-90 minutes	0.9	-	-

Table 8. *Percentage of Patients Presenting at Different Symptom Duration During the Past Month*

Symptom Duration	None	1%-25%	26%-50%	51%-75%	76%-100%
Symptom-free	30.9%	54.5%	6.1%	6.7%	1.8%
0-4 weeks	2.0%	25.5%	39.5%	22.5%	10.5%
4-8 weeks	2.7%	36.6%	43.2%	16.4%	1.1%
8-12 weeks	4.9%	44.6%	38.0%	11.4%	1.1%
>12 weeks	7.8%	52.5%	21.2%	14.5%	3.9%

Table 9. *Chiropractic Practice Components (Multiple Responses Allowed)*

Components	None	1%-25%	26%-50%	51%-75%	76%-100%
Direct patient care	0.5%	8.5%	19.8%	43.9%	27.4%
Documentation of care	1.9%	77.1%	17.1%	1.9%	1.9%
Business management	5.3%	73.3%	15.0%	4.9%	1.5%
Patient education	1.9%	46.2%	31.3%	14.9%	5.8%

Table 10. *Chiropractic Practice Environment*

Practice Environment	% of Chiropractors
Structure of Practice	
Individual/only chiropractor in office	43.4
1 of ≥2 chiropractors in office	25.5
Practitioner in multidisciplinary office	29.2
Junior associate or examining doctor	0.0
Location of Practice	
More than 1 practice location	26.3
Only 1 practice location	73.7
Deliver chiropractic care outside office setting	38.0
Staff privileges at a hospital	7.5
Other	1.9

Table 11. *Chiropractic Treatments and Techniques Used (Multiple Responses Allowed)*

Technique/Treatment	Used on 0%-25% of Pts	Used on 26%-50% of Pts	Used on 51%-75% of Pts	Used on 76%-100% of Pts
Diversified	7.0%	6.1%	10.3%	65.4%
Gonstead	24.3%	0.9%	0.5%	7.0%
Drop technique	43.5%	15.0%	8.9%	8.9%
Activator	42.5%	7.0%	2.3%	3.3%
Applied kinesiology	29.9%	4.7%	1.4%	1.4%
Network	28.0%	0.0%	0.0%	0.0%
Mobilization	41.6%	25.7%	2.3%	8.4%
Active muscle release	27.6%	12.1%	3.7%	7.0%
Sacro-occipital technique	29.4%	2.8%	1.4%	3.3%
Physical therapy modalities	33.6%	13.6%	6.1%	18.2%
Massage	21.0%	14.0%	5.6%	28.5%
Trigger point therapy	17.3%	14.0%	8.9%	36.4%
Trigger point injections	30.4%	0.5%	0.5%	0.9%
Dry needling	21.5%	26.2%	19.2%	19.6%
Acupuncture	33.2%	2.3%	0.0%	0.9%
Rehabilitation technique	26.6%	17.8%	10.7%	12.1%
Therapeutic exercises	14.5%	21.5%	12.1%	24.3%
Nutritional counseling	34.6%	15.0%	6.5%	10.3%
Advice on activities of daily living	15.0%	13.1%	15.9%	36.4%
Taping/strapping	36.9%	20.6%	5.6%	2.3%
Lifestyle counseling	19.6%	18.7%	7.5%	18.7%
Other technique/treatment	18.2%	3.3%	1.9%	6.5%

Pts, patients.

respondents (82.5%) reported not taking radiographs in their practice environment, and the vast majority (95.8%) of these respondents referred patients to an imaging center or hospital when imaging was needed. Of the remaining 17.5% of practitioners who took radiographs in their practice environment, the majority (73.1%) did not delegate taking radiographs to nonchiropractic staff members.

In terms of the development of the radiographs, of the 17.5% of practitioners who indicated that they did take radiographs in their practices, the majority (84.4%) stated that they developed the radiographs themselves, and the remainder delegated this activity to a nonchiropractic staff member. The majority of the practitioners (85.4%) also indicated that they did not delegate other activities, such as the administration of adjunctive therapies, to a nonchiropractic member of their staff.

Chiropractic Techniques and Treatment Procedures

Diversified adjusting techniques were the most common treatment protocol used, followed by advice on activities of daily living (Table 11). The least common therapies include network technique and trigger point injections (Table 11).

Diagnostic Imaging Techniques

The majority of chiropractors (60.6%) indicated that a radiologist normally interpreted radiographs, and the

Table 12. *Percentage of Patients Indicated for Radiographic and Advanced Imaging (Computed Tomography or Magnetic Resonance Imaging)*

Patients Indicated	% of Chiropractors
Radiographic Imaging	
0%	0.9
1-20%	45.8
21-40%	29.9
41-60%	9.3
61-80%	5.6
81-100%	8.4
Advanced Imaging	
<5%	19.3
5-10%	42.0
11-20%	19.3
21-30%	10.6
31-40%	4.8
>40%	3.9

practitioner often also drew his or her own conclusions from the radiographs. Some chiropractors (37.1%) actively interpreted the radiographs even if they had a radiologist report.

Radiographic examination was indicated for less than 20% of chiropractic patients (Table 12), Advanced diagnostic imaging examination, such as magnetic resonance imaging and computed tomography scans, were indicated for less than 10% of their patients (Table 12).

Interprofessional Referrals

The most frequent referrals to chiropractors during 2014 were from general practitioners, followed by massage therapists. The least likely sources of professional referrals were from physiatrists, orthopedic technicians, and internists (Table 13).

Chiropractors reported that during 2014, they most frequently referred patients to general practitioners, followed by referrals to massage therapists. Chiropractors were least likely to refer patients to physiatrists, orthopedic technicians, and internists (Table 13).

Chief Complaints and Primary Etiologies

The most prevalent complaint reported was low back pain and pelvic pain/injury without leg pain. Abdominal pain/injury and other nonmusculoskeletal conditions were the least common complaints presenting to chiropractic practices (Table 14). Overuse/repetitive stress were the most common primary etiologies for patients' chief complaints reported by practitioners (Table 15).

Discussion

Comparison With Other Countries

The following is a comparison with the available results of the survey analyses done in the UK,[8] the US,[6,7] and Switzerland.[2] A more equal gender distribution of practitioners in both the UK and SA was reported, with larger differences recorded in the US and Switzerland, indicated by the response rate to the surveys and the registered chiropractors in these countries.[2,6,8] Chiropractors in the US and Switzerland were in practice for longer periods than those in both the UK and SA.[2,6,8] In terms of the hours worked per week, the results show that SA more closely resembles practice in the US, where practitioners often worked less than 40 hours a week, whereas most chiropractors in Switzerland worked more than 40 hours per week (no data were available for comparison with the UK).[2,6]

Practitioners from SA, Switzerland, and the US reported that they commonly attended congresses, conferences, and seminars for the purposes of furthering their professional education.[2,7] With regard to the continuing education units/hours to be completed by practitioners, SA more closely resembles the requirements set in certain states of the US—substantially less than the requirements stipulated for Switzerland (no UK data were available for comparison).[2,7]

Chiropractors treated more female patients in SA, Switzerland and the US (no UK data were available for comparison), and the most common age group of patients that presented to chiropractors in these 3 countries was similar.[2,7] The data regarding the total number of patients as well as new patients treated by practitioners was similar among practitioners in the UK and SA, whereas chiropractors in Switzerland treated significantly more patients as compared with the other countries in question.[2,6,8] In terms of time allocated for initial and follow-up consultations, similar times were reported by practitioners in the UK and SA, where they allocated more time to consultations as compared with practitioners in Switzerland (no US data were available for comparison).[2,8] In SA, the UK, and Switzerland, urgent appointments could be scheduled with the majority of practitioners on the same day and nonurgent cases within 1 to 2 days (no US data were available for comparison).[2,8]

Patients in both SA and Switzerland typically presented during the acute or the subacute phase of disease or injury and were less likely to present during the chronic phase or be symptom-free, as was the case in the UK (no US data were available for comparison).[2,8] The common chief complaints that chiropractic patients presented with were similar in SA, the US, and Switzerland, and included low back pain and pelvic pain/injury with or without leg pain, and neck pain/injury, with or without arm pain or headaches (no data were available from the UK survey results).[2,7] Similar etiologies for these complaints were reported for all countries (except the UK) and included the following: overuse or repetitive stress, activities of daily living, and work-related activities.[2,7] In SA and Switzerland, exercise and recreational activities were also found as more prevalent causes for these complaints, and in the US, motor vehicle accidents were reported as a more likely cause (no UK data were available for comparison).[2,7]

The practitioners in SA, Switzerland, and the US indicated that they devoted most of their time to direct patient care and

Table 13. *Health Care Professionals Referring Patients to Chiropractors and Referral of Patients From Chiropractors to Other Health Care Professionals (Multiple Responses Allowed)*

	Never (%)		Rarely (<1/Month) (%)		Sometimes (1-3/Month) (%)		Often (1-2/Week) (%)		Routinely (>2/Week) (%)	
Practitioner	To	From	To	From	To	From	To	From	To	From
Acupuncturist	82.4	66.7	13.8	25.1	3.7	8.2	0.0	0.0	0.0	0.0
Dentist	53.3	48.9	34.0	41.0	11.2	9.0	1.5	0.5	0.0	0.5
Family practitioner	16.0	11.4	31.1	26.7	34.9	48.0	9.4	10.9	8.5	3.0
Internist	86.6	73.1	9.6	17.6	2.1	8.2	0.5	1.1	1.1	0.0
Massage therapist	27.0	25.8	26.5	23.7	30.4	31.4	14.2	14.4	2.0	4.6
Nutritionist	72.9	43.7	17.0	33.3	9.0	18.6	1.1	3.3	0.0	1.1
Obstetrician/Gynecologist	71.4	50.5	17.7	35.5	9.4	12.4	0.5	1.1	1.0	0.5
Orthopedic surgeon	47.5	15.4	35.4	44.8	12.1	30.8	3.0	6.5	2.0	2.5
Other chiropractor	32.7	31.7	46.5	51.3	18.3	15.3	2.0	1.1	0.5	0.5
Pediatrician	65.8	49.7	20.4	37.0	12.2	12.2	1.5	0.5	0.0	0.5
Physical therapist	39.8	31.7	30.8	34.4	24.4	26.5	4.0	5.3	1.0	2.1
Physiatrist	93.6	90.0	5.3	8.3	0.5	1.7	0.5	0.0	0.0	0.0
Neurologist	66.0	21.9	23.4	46.3	7.6	25.9	2.5	4.5	0.5	1.5
Neurosurgeon	61.7	20.6	30.1	44.2	6.6	27.1	1.5	7.0	0.0	1.0
Orthopedic technician	91.6	84.0	6.3	9.6	1.6	5.9	0.5	0.5	0.0	0.0
Psychologist/Psychiatrist	75.9	61.0	17.8	28.9	5.8	8.6	0.5	1.1	0.0	0.5
General surgeon	80.5	56.1	15.3	33.2	3.7	9.6	0.0	0.5	0.5	0.5
Other health care professional	53.4	58.2	13.8	16.4	20.7	19.9	9.2	4.1	2.9	1.4

patient education and less time to documentation of patient care and business management activities (no UK data were available for comparison).[2,6] Like practitioners in SA, almost half of the practitioners in Switzerland reported that they worked as sole practitioners; in the US, the vast majority were sole practitioners, whereas in the UK, the majority reported that they were in multidisciplinary office settings.[2,6,8] In SA, Switzerland, and the US, the majority of practitioners practiced at only one office location, and practitioners were more likely to provide care out of their primary office setting in Switzerland and the US than in SA.[2,7] In SA, Switzerland, and the US, the minority of practitioners had staff privileges in hospital environments.[2,6]

In Switzerland, the majority of practitioners had in-office radiographic equipment. In the US, half of the respondents had their own equipment, in contrast to the majority of respondents in SA who had to refer their patients to imaging centers and hospitals when radiographic examination was required.[2,7] In these 3 countries, practitioners with radiographic equipment take their own radiographs; however, more practitioners in SA and the US reported that they would develop their own images compared with those in Switzerland, where digital imaging equipment may have eliminated this procedure (no UK data were available for comparison).[2,6] In SA, practitioners relied on a radiologist's report but would also draw their own conclusions from the radiographs, whereas in both Switzerland and the UK, practitioners would interpret the diagnostic images of their patients themselves (no US data were available for comparison).[2,8] In SA, Switzerland, and the UK, radiographic examination was deemed necessary for fewer patients than those in the US.[2,7,8] South African and Swiss practitioners also deemed advanced diagnostic imaging necessary for fewer patients than what was reported by US practitioners (the UK did not report on this aspect).[2,7]

The treatment technique most frequently used in SA, Switzerland, and the US was diversified adjusting.[2,7] Some overlap was found in the most common additional treatment

Table 14. *Percentage of Patients Presenting With the Following Chief Complaints During the Past Year (Multiple Responses Allowed)*

Chief Complaint	None	1%-10%	11%-20%	21%-30%	31%-40%	41%-50%	51%-60%	61%-70%	71%-80%	81%-90%
Headache or facial pain without neck pain	8.5%	46.3%	20.9%	7.5%	3.5%	3.5%	2.0%	1.0%	2.0%	1.0%
Headache with neck pain	2.4%	7.8%	19.4%	22.8%	15.0%	11.7%	7.8%	8.3%	2.4%	2.4%
Neck pain/injury without arm pain or headache	4.5%	16.9%	21.4%	19.9%	9.5%	12.9%	7.0%	4.5%	3.0%	0.5%
Neck pain/injury with arm pain	3.9%	25.5%	24.0%	14.7%	14.7%	8.3%	2.5%	2.9%	2.5%	1.0%
Midback pain/injury	2.9%	18.6%	26.0%	17.6%	17.6%	8.8%	3.4%	2.9%	1.0%	1.0%
Low back, pelvis pain/injury without leg pain	2.5%	5.9%	15.7%	13.7%	13.7%	12.7%	13.7%	10.3%	8.3%	3.4%
Low back, pelvis pain/injury with leg pain	3.4%	12.7%	20.0%	20.0%	9.3%	11.2%	9.8%	5.4%	6.3%	2.0%
Upper extremity pain/injury	3.5%	33.5%	27.5%	12.5%	9.5%	6.5%	2.0%	4.5%	0.5%	0.0%
Lower extremity pain/injury	3.6%	34.7%	27.0%	11.2%	8.2%	7.1%	4.1%	3.1%	1.0%	0.0%
Chest pain/injury	19.7%	57.6%	10.6%	4.0%	4.5%	1.5%	0.5%	1.0%	0.5%	0.0%
Abdominal pain/injury	38.1%	50.3%	7.1%	1.5%	1.0%	0.5%	0.5%	0.5%	0.5%	0.0%
Wellness/Preventive care	10.3%	36.9%	18.2%	14.8%	8.9%	5.4%	2.5%	1.5%	1.5%	0.0%
Other nonmusculoskeletal condition	53.3%	26.3%	5.9%	6.6%	1.3%	2.6%	2.0%	0.7%	0.7%	0.7%

Table 15. *Primary Etiology for Patients' Chief Complaints (Multiple Responses Allowed)*

Primary Etiology	None	1%-10%	11%-20%	21%-30%	31%-40%	41%-50%	51%-60%	61%-70%	71%-80%	81%-90%
Activities of daily living	2.9%	10.2%	21.5%	21.5%	11.2%	9.3%	7.3%	6.8%	5.9%	3.4%
Motor vehicle accident	5.9%	42.0%	23.4%	14.1%	5.9%	4.4%	2.4%	2.0%	0.0%	0.0%
Overuse/repetitive stress	2.9%	2.4%	23.2%	19.8%	14.5%	10.6%	8.2%	9.7%	7.2%	1.4%
Sports/exercise/recreation	3.0%	7.5%	23.9%	17.4%	18.4%	10.9%	7.0%	6.0%	4.5%	1.5%
Work (not repetitive stress)	3.4%	15.0%	21.4%	16.5%	14.1%	8.7%	7.8%	5.8%	3.9%	3.4%
Acute illness/pathology (eg, colds, ear infections)	32.2%	44.1%	12.9%	4.0%	4.5%	1.0%	0.0%	0.5%	0.5%	0.5%
Chronic illness, pathology (eg, cardiovascular, diabetes)	33.2%	44.2%	8.5%	4.5%	4.5%	1.5%	1.0%	2.0%	0.5%	0.0%
Emotional stressors	5.8%	22.3%	25.7%	11.2%	10.2%	8.7%	1.9%	5.8%	6.3%	1.9%
Environmental stressors, including dietary	13.5%	31.3%	18.5%	12.5%	5.0%	6.5%	2.0%	5.0%	3.0%	2.5%
Other primary etiology	92.6%	4.6%	0.0%	1.9%	0.0%	0.0%	0.0%	0.0%	0.9%	0.0%

techniques reported in these 3 countries, including advice on activities of daily living, therapeutic exercise, and trigger point therapy.[2,7] Respondents in SA commonly incorporated massage therapy into treatment protocols, whereas in Switzerland, physical therapy modalities were used more often.[2] Frequently used techniques in the UK included adjustment techniques, rehabilitation exercises, and soft tissue therapy, such as massage (no specific adjustment techniques were listed in the

UK survey).[8] Most of the practitioners in SA administered these adjunctive therapies, in contrast to the findings in both Switzerland and the US (no UK data were available for comparison).[2,7]

The most common means of acquiring new patients reported in SA, Switzerland, and the UK was through word of mouth or patient referrals.[2,8] Direct patient referrals from medical doctors and other health care professionals were also reported to be a significant source of new patients in SA; however, in Switzerland, this is a much larger source for new patients than in SA (no UK or US data were available for comparison).[2]

The interprofessional referral pattern in SA and the US showed that chiropractors established professional relationships with medical practitioners, massage therapists, and orthopedic surgeons, evidenced by the frequency and overlap between these professions' interreferrals.[6] The pattern of common interprofessional referrals in Switzerland shows that relationships were established among chiropractors and the following professions: general medical practitioners, internists, orthopedic surgeons, and physical and massage therapists, apparent from the consistent overlap of the first 5 indicators of referrals made.[2] Furthermore, interprofessional referrals were made more frequently between medical doctors and chiropractors in Switzerland than in SA and the US (the UK survey did not report on the frequency or on referrals received from other professionals).[2,6]

Limitations and Recommendations

The final response rate in the SA survey can be considered satisfactory regarding the gender proportion of responses and the number of responses per province, which signify that this study may be considered as being representative of the targeted population. Admittedly, a higher response rate is desirable, which, in the future, could ensure that the information gathered and conclusions reflect a more precise representation of the population and the profession as a whole. Thus, future job analyses of the profession in SA should address various issues.

First, to achieve a higher response rate in future studies, it is recommended that presurvey notifications be circulated to practitioners at least 1 week prior to the actual survey questionnaire to draw maximum benefit. Furthermore, incentivizing participation should be considered, such as was the case of the study in Switzerland,[2] whereby respondents received 5 continuing education credits on submission of their completed surveys, which possibly contributed to a higher response rate in the survey.

Second, time constraints in administering the online survey in SA resulted in the survey being available online for a period of 1 month only, compared with the 3 months in Switzerland.[2] Future researchers may consider making the survey available for a longer period, although consideration will have to be given to the possible tail-off in responses.

Third, in the different countries that administered a job analysis survey, the questionnaire reflected the specific conditions of each country.[2,6-8] As a result, variations exist in questions included and thus the data reported. Because of the comparative nature of the current study, limitations were found with regard to available information for consistent comparison throughout the discussion. It is therefore recommended that for future job analyses with international comparison in mind, the chiropractic profession develop a standardized template to enable comparison of relevant aspects.

Last, considering that the surveys in the various countries were administered at different time frames,[2,6-8] the results discussed in this study may not consistently portray the most current conditions in those countries. To provide accurate information on the current profile of the profession in the various countries, it is recommended that countries globally administer job analysis surveys at regular intervals.

Conclusions

The aim of the current study was to provide a solid base from which the chiropractic profession in SA can advance and build its future. Comparison with the available results of the survey analyses from Switzerland, the US, and the UK shows that even though certain aspects overlap, the chiropractic profession in SA has a distinct combination of characteristics.

The chiropractic profession in SA is in a favorable position to advance into the 21st century health care system, if the following areas for improvement identified in this study are given particular attention: chiropractors in SA see significantly fewer patients in total, and even though interprofessional relationships with other health care professionals have developed, the range and frequency of referrals remain limited.

In addition, although chiropractic services in SA are covered by most of the medical aid schemes, as well as the Compensation for Occupational and Diseases Act in SA, by 2014, only 18.6% of the population of an estimated 54 million was covered by a medical aid scheme.[9-11] Furthermore, 61.2% of the population in SA was more likely to seek primary care from public sector doctors, clinics, and hospitals, and 38.8% had access to primary care from private sector doctors, clinics, hospitals, and other nonpublic facilities.[12]

Finally, because both chiropractic educational institutions in SA are housed in large universities that require a master's degree with an evidence-based educational approach along with a national program, the profession is well positioned to continue to advance the practice into more integrated health care, servicing a wider spectrum of society.

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Contributorship Information

Concept development (provided idea for the research): C.Y., C.P.
Design (planned the methods to generate the results): G.L.J., C.Y., C.P.
Supervision (provided oversight, responsible for organization and implementation, writing of the manuscript): C.Y., C.P.
Data collection/processing (responsible for experiments, patient management, organization, or reporting data): G.L.J.
Analysis/interpretation (responsible for statistical analysis, evaluation, and presentation of the results): G.L.J.
Literature search (performed the literature search): G.L.J., C.P., C.Y.
Writing (responsible for writing a substantive part of the manuscript): G.L.J., C.P., C.Y.
Critical review (revised manuscript for intellectual content, this does not relate to spelling and grammar checking): C.P., C.Y.

Practical Applications

- Chiropractic practice in SA is primarily evidence-based.
- Chiropractors in SA, on average, see fewer patients per week compared with other surveyed countries because of the health insurance system.
- The age and gender distribution of patients presenting to SA chiropractors is the same as other countries surveyed.
- The most common chief complaints of patients presenting to SA chiropractors is the same as the other countries surveyed.

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